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Reply to Office Action of December 2, 2005

### **REMARKS/ARGUMENTS**

Prior to this Amendment, claims 1-31 were pending in the application, with claims 1-18 remaining for consideration and claims 19-31 being withdrawn based on a restriction requirement. Claims 19-31 are cancelled with this Amendment to expedite allowance of the remaining claims.

Claim 1 is amended to clarify the subject matter of the invention. Dependent claims 4-8 are amended to clarify that processes are provided by the front and back-end computers based on preselected and compatible semantics, with the computers being within the network. New claims 32-34 are added to clarify and protect other features of the invention not shown by the cited references. No new matter is added, and entry of the amendment is requested (at least for use on Appeal) as Applicants do not believe new issues are raised. Dependent claims 2 and 3 are cancelled.

Independent claim 9 is amended to include the limitations of dependent claim 10, which is not shown by the references of record in the case. Claim 10 is cancelled.

Independent claim 15 is amended to clarify the subject matter of the invention as including the ability of the plurality of front-end and back-end servers to operate in a time synchronized manner.

Independent claims 17 and 18 are amended to stress the time synchronization feature of the invention provided by the front-end and back-end servers and the provision of compression for non-encrypted data.

After entry of the Amendment, claims 1, 4-9, 11-18, and 32-34 remain for consideration by the Examiner.

The prior Office Action rejected the independent claims within claims 1-18 as being anticipated by U.S. Pat. No. 6,078,582 ("Curry"). The Examiner has withdrawn this rejection and has performed an additional search and now rejects the independent claims (i.e., claims 1, 9, 15, 17, and 18) as being obvious based on Curry and a new reference.

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**Rejections under 35 U.S.C. §103**

In the December 2, 2005 Office Action, claims 1-6, 8-12 and 14-18 were rejected under 35 U.S.C. 103(a) based upon Curry in view of U.S. Pat. No. 6,272,492 ("Kay"). This rejection is respectfully traversed based on the following remarks.

Before turning to the claim language, it may be helpful to more generally discuss Applicants' invention as described in the specification. The Background of specification discusses some of the problems with providing services, such as time-aware operations, data compression, and encryption. It is difficult to do time aware operations because routers and other Internet/network components generally operate asynchronously and IP packet sending times are not synchronous between sender and receiver. Services such as data compression, error correction, and encryption are performed by user-level and application-level processes but generally cannot be performed by Internet or network infrastructure components, and hence, if a client device cannot support a particular service, the data is simply transmitted without the benefit of these useful services. In other words, the inventors identified needs for Internet or similar network components to perform one or more of these transport services on data to improve transport within the Internet or network.

As discussed beginning on page 9, line 2, the invention provides improvement to existing communication channels by providing paired front-end and back-end servers (of multiple front-end servers to one back-end server) that "are located within the network." Clients outside the network communicate with each other (such as a web browser and a web site server) via the front-end and back-end servers, and, to provide these desirable high-layer functions, a common semantic is defined for the pair of machines within the network (e.g., "all of the software and hardware mechanisms below the 'network' protocol layer in the OSI model in the client and server computers can be considered within the network" and as shown in Figure 2, the front-end servers 201 and the back-end servers 203 are within the network 200, which is akin to a private network, while clients 205 and web site servers 210-212 are outside the network 200).

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Turning now to the language of claim 1, the method calls for providing front-end and back-end computers "within the network" that each interface with computers and implement a web server. The method continues with encoding data traffic and then decoding traffic at both the front-end and the back-end servers. The processes used for encoding and decoding the traffic implement "preselected compatible semantics." Hence, to teach the method of claim 1, a reference or references would have to teach providing a pair of computers within a network that run processes according to a preselected semantic to encode and to decode data traffic transmitted over a communication channel between the devices. The combination of Curry and Kay fail to provide this teaching.

As discussed in the prior Amendment, Curry does not show or suggest the use of web servers in the first and second telephony servers. It also should be noted that claim 1 also calls for a front-end computer having an interface for communicating data traffic with a first computer, and a back-end computer having an interface for communicating data traffic with the second computer. Curry et al. deal with communication between a called party and a calling party, not first and second computers. Hence, the telephony servers in Curry require interfaces for communicating with telephone equipment, not computers. For at least these reasons claim 1 is not shown or fairly suggested by Curry.

The Office Action appears to recognize the deficiencies in Curry, and in an attempt to overcome these problems, the Office Action cites Kay as providing teaching of "a system and method that relates to a front-end proxy server for Internet web servers in which functional enhancements may be added that require no modification or replacement of the content-storing servers and is transparent to web browser software." Applicants disagree that the combination of Kay and Curry would result in the invention as called for in claim 1. As described in col. 2, line 33 to col. 3, line 54 with reference to Figures 1a to 1d, the Kay system teaches providing a web site 100 with a front-end proxy server 104 and a back-end full-function web server 102. These servers 102, 104 communicate over link 106. The processes performed by the proxy server 104

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are shown in Figure 1b and include mapping of requests to a particular web server 104 and throttling of data flow from the proxy 104.

Significantly, the proxy server 104 is not pre-paired with the web server 102 and there is no teaching that the servers 102, 104 run processes to a particular semantic. Particularly, Kay teaches that communications over link 106 between the servers 102, 104 are HTTP (see, col. 3, line 36) and there is no discussion of encoding at the front-end server 104 and then decoding at the web server 102 based on a preselected compatible semantic. For at least these reasons, the rejection of claim 1 based on Curry and Kay should be withdrawn as these references do not teach or suggest every element of claim 1.

Further, there is no teaching in Kay that its servers 102, 104 are "within the network" as called for in claim 1, with the Internet or network in Kay being shown at 116. For this additional reason, claim 1 is allowable over these references.

Claims 4-8 and claims 32-34 that depend from claim 1 are allowable for at least the same reasons as claim 1. Further, claims 4-8 call for the semantics of the front-end and back-end computers to define the processes used to provide services "within the network" including transfer of operational information, time-based synchronization, encryption/decryption, and error correction. None of these services are shown by the proxy of Kay and neither Curry nor Kay show such services being provided by devices within the network. Claim 32 calls for the front-end and back-end servers to be assigned to a particular web site served by second computer. The proxy of Kay acts to select among a number of back-end computers and is not assigned to a single web server. The idea of "within the network" is further defined in claim 33, with the processes providing the services in the front-end and back-end being implemented "below the network protocol layer of an Open System Interconnection (OSI) model" and Kay does not teach that its services provided by the proxy are implemented below the network layer of the OSI model. Claim 34 clarifies that the first and second computers implement applications that are outside the network, and the use of network computers to provide desirable transport services within a network to

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facilitate communications of two outside network applications is not shown by Curry and Kay. For these additional reasons, claims 4-8 and 32-34 are believed allowable over the cited references.

Claim 9 calls for a front-end web server and a back-end web server within a network. Curry does not show or suggest the use of web servers "within a network" as discussed in detail with reference to claim 1. Further, as amended, claim 9 call for the front-end server and back-end server to be "time synchronized" and for the back-end server to include means for ascertaining when a request/response was issued by the front-end server." As noted in Applicants' background, network devices such as routers in the Internet are run in an asynchronous fashion and are not "time synchronized" and the use of IP packet sent times will not necessarily provide desired means for determining when a request/response was sent. The Office Action cites Curry at col. 4, lines 43-50. However, at this citation, Curry discusses a second telephony server transmitting a received first data packet that includes a destination address, a session identifier, and a destination number. There is no teaching that the second telephony server includes means to determine when the first data packet was issued or that the first and second telephony servers are time synchronized. Kay is not cited for overcoming this deficiency (and does not because it fails to teach that its servers 102, 104 are time synchronized). Hence, the combination of Curry and Kay fail to support a rejection of claim 9.

Claims 11-14 that depend from claim 9 are believed to be allowable over Curry and Kay for at least the same reasons as claim 9. Further, claim 11 calls for the front-end server to be able to determine when a request/response was issued by the back-end server, and Curry fails to teach such an ability for its first telephony server and Kay fails to teach this ability in its proxy server. For this additional reason, claim 11 is believed in condition for allowance.

Independent claim 15 as amended calls for: "a many-to-many communication channel through the network between the front-end web computers and the back-end web computers, wherein the front-end web computers each comprise means for encoding the request/response traffic

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including inserting time-based synchronization information as defined by a semantic common among the front-end and the back-end web computers, wherein the back-end computers each comprise means for decoding the encoded request/response traffic from any of the front-end web computers based on the common semantic, and wherein the back-end web computers comprise means for determining when the encoded request/response traffic was issued by the front-end servers." Curry is cited for teaching the time synchronization feature of the invention, but as discussed with reference to claim 9, Applicants disagree with this interpretation of Curry. More particularly, Curry fails to show the particular system as now called for in claim 15, and Applicants request that the rejection be withdrawn or a citation be provided that shows time synchronization as claimed.

Further as discussed in the prior Amendment, claim 15 calls for, among other things, a plurality of network-connected applications generating requests for network services and a plurality of network-connected computers configured to provide services in response to received requests. Curry shows calling parties that place "call requests". The calling parties are not fairly equivalent to network connected applications or network connected computers set out in claim 15. Moreover, the telephony servers in Curry does not include interfaces configured in the manner called for in claim 15 because the telephony servers do not have any need to communicate with network connected computers and/or applications. For at least these reasons claim 15 and claim 16 are allowable over Curry.

Independent claims 17 and 18 are amended to call for time synchronization and the reasons for allowing claim 15 over Curry and Kay are believed applicable to claims 17 and 18. Independent claim 18 is also amended to call for the front-end server to compress traffic from applications when the data is not encrypted. This feature is not shown by the Curry or Kay.

Additionally, as indicated in the prior Amendment, claims 17 and 18 call for a plurality of client applications generating requests for network services. In Curry, call requests are initiated by people and routing requests are initiated from

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one of the telephony servers in response to a call request. There does not appear to be any client applications generating requests. Moreover, there are no front end web servers and/or back-end web servers mentioned in Curry. Claim 18 calls for a one-to-many communication channel through the network. Curry appears to involve only one-to-one communication channels in the network, and Kay also appears to discuss one server 102 to another server 104. Accordingly, this element of claim 18 is not shown or suggested in the relied upon references.


Additionally, the Office Action rejected claims 7 and 13 under 35 U.S.C. §103 based upon Curry in view of U.S. Pat. No. 6,078,582 ("Aziz"). This rejection is respectfully traversed based on the following remarks. Claims 7 and 13 are distinct with respect to Curry for at least the same reasons as claims 1 and 9, respectively, from which they depend. Aziz does not supply the deficiencies of Curry that have been set out above. Note, also, that claim 7 depends from claim 1 and claim 13 depends from claim 9, which the Examiner believed included features not shown in Curry, and hence, a proper obviousness rejection has not been stated for claims 7 and 13.

### Conclusions

Based on the above discussion, it is requested that a timely Notice of Allowance be issued in this case.

No fee is believed due with this response, but any fee deficiency associated with this submittal may be charged to Deposit Account No. 50-1123.

Respectfully submitted,



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